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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,157	12/21/2001	Geordie Rose	11090-045-999	3581
20583	7590	11/02/2004	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			LEE, BENNY T	
			ART UNIT	PAPER NUMBER
			2817	
DATE MAILED: 11/02/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.



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FILING DATE

ARTICLE

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- ☒ This application has been examined ☒ Responsive to communication filed on 2 Feb 2004 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s), 2004 from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-8, 12-21, 55, 59-75 are pending in the application.
Of the above, claims 6, 18, 20, 21, 55, 59-72, 73-75 are withdrawn from consideration.
2. ☒ Claims 9-11, 22-54, 56-58 have been cancelled.
3. ☐ Claims are allowed.
4. ☒ Claims 1-3, 5, 7, 8, 13 are rejected.
5. ☒ Claims 4, 12, 14-17, 19 are objected to.
6. ☒ Claims 1-8, 12-21, 55, 59-72, 73-75 are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____ Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 463 O.G. 213.
14. ☐ Other

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Applicant's election with traverse of Group I, species III in the reply filed on February 2, 2004 is acknowledged. The traversal is on the ground(s) that a ~~search~~^{search} and examination can be made of the application without serious burden to the examiner. This is not found persuasive because there is indeed a serious burden on the examiner to conduct a search and examination on subject matter, which is divergent in nature, ^{an} which has substantially different classification. In particular for the apparatus claims, note that five distinct species have been identified which includes certain features which cause any one species to be divergent from any other species, thereby establishing a serious burden on the examiner to search and examine divergent subject matter.

The requirement is still deemed proper and is therefore made FINAL.

Claims 6, 18, 20, 21, 55, 59-72; 73-75 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on February 2, 2004.

The disclosure is objected to because of the following informalities: Page 3, line 17, note that "doubly degenerate a ground state" is vague in meaning. Page 4, line 9, note that – OF THE INVENTION – should follow "DESCRIPTION" for clarity of description. At all occurrences throughout the specification, should "normal" properly be – ⁿnot¹ superconductive --?

~~Appropriate amendments are required.~~

Page 6, second paragraph and page 8, last paragraph note that the parameters recited therein (L_{50} , L_{51} , L_{52} , L_{53} , etc) need to be associated with the drawing

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figure(s) in which they appear. Page 10, line 28, should "L₅₂" correctly be -- L₅₁ -- 1 for consistency with the corresponding drawing figure?

The drawings are objected to because of the following: In FIG 1C, should -- Θ --- be provided? In Fig. 6A, note that --- 90 -- needs to be provided; In FIG. 6B, -- 95 -- needs to be provided . Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in ~~abeyance.~~

The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

The attempt to incorporate subject matter into this application by reference to various printed publications throughout the specification is improper because the

incorporation by reference to these various printed publications pertain to "essential material". Note that "essential material" can only be incorporated by reference to U.S. patents or allowed U.S. patent applications.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 13, note the "first connector" and the "second connector" lacks strict antecedent basis.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaninetti et al or Schiek et al in view of Romanofsky et al.

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Note that both Vaninetti et al (e.g. Fig. 2) and Schiek et al (Fig. 1) disclose phase shift devices (10 in Vaninetti et al; (1, 2) in Schiek et al) comprising first and second output terminals. In Schiek et al, the output terminals are not explicitly depicted but are associated and connected with corresponding ones of meander lines (1, 2). In Vaninetti et al, the output terminals are not labeled but are associated and connected with reference line (34) and phase shift filter (42). In each reference, note that a 180 phase difference exists between the first and second output terminals. Note that in Vaninetti et al, phase shift filter (42) functions as a phase shifter while in Schiek et al, meander lines (1, 2) function to provide the phase shift. Note that since both Vaninetti et al and Schiek et al disclose the phase shift device thereof being comprised of microstrip, it would have stood to reason that such microstrip devices inherently would have included a substrate. Both primary references differ from the claimed invention in that the terminals and phase shifters are not disclosed as being superconductive.

Romanofsky et al discloses a phase shifter comprising a microstrip configuration which is made of Y-Ba-Cu-O (an anisotropic "d" type superconductor).

Accordingly, it would have been obvious in view of the references taken as a whole, to have realized the microstrip phase shifters and terminals of either primary reference to have been of a Y-Ba-Cu-O superconductive material as taught in the microstrip phase shifter of Romanofsky et al. Such a modification would have been considered an obvious substitution of art recognized microstrips in which the Y-Ba-Cu-O superconductive material would have provided the benefit of low signal loss to the phase shift devices of either primary reference.

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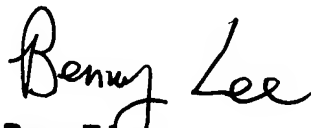
Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaninetti et al in view of Romanofsky et al.

Note that Vaninetti et al as described in the preceding rejection. However, regarding claim 5, 6, note from fig. 1 of Vaninetti et al that the output terminals are each coupled to a side of the phase shift device and as such are oriented at a 90° (i.e. mismatch angle) with respect to each other.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (571)272-1764.

Lee/ds

10/22/04


Benny T. Lee
Primary Examiner